# Petr Stepanov

`Frontend and desktop developer. Web designer.`

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## Summary

Ph.D. graduate in physics with expertise in computer science. Strong desktop and web application software development skills. More than five years in user interface (UI) and user experience (UX) design. Seeking to apply for a software development position in the industry. Authorized to work in the US on Optional Practical Training (OPT expires February 2023). Will consider visa sponsorship offers.

## Computer Skills

**Essentials**. Git, SVN, SSH, Linux, and Terminal usage. BASH scripting. IDEs: Eclipse, Xcode, Visual Studio Code (VS Code). Project Management: JIRA, Trello.

**Desktop**. C/C++ and frameworks: Qt, Fox, CERN ROOT, Geant4. Building from source: GNU make, CMake. Java and Swing. Python.

**Frontend**. HTML and CSS (LESS, SASS), Bootstrap, responsive web design, JavaScript and jQuery, npm, gulp, Google Web Toolkit (GWT), AngularJS, React.js, and Backbone.js.

**Backend**. Java, Node.js, EJS.

**UI/UX design**. Figma, Sketch, InVision Studio, Adobe XD, Adobe Photoshop, Adobe Illustrator, Inkscape, Blasamiq, Blender.

**Apple iOS**. Fundamental Swift skills. User interface development with UIkit and storyboards.

## Work Experience

### C++ Software Developer

Thomas Jefferson National Accelerator Facility (JLab) *Jul 2020 - Current*

- Applied CERN ROOT framework (C++) to perform statistical analysis of a significant amount (over 100 GB) of the raw experimental data of the Kaon LT experiment at JLab. Link to GitHub.
- Utilized SLURM environment on JLab supercomputer environment to run resourceful particle simulations on multiple computing nodes at the same time. This decreased the

wall computation time by more than 10 times.

- Proposed and implemented RAMDisk functionality on the development environment. This lead to an over 60% increase in source code indexing time.
- Set up data acquisition system that performs triggered waveform acquisition from Tektronix oscilloscope to a local Network Attached Storage (NAS) device. RedHat, Ethernet, SAMBA, Python, National Instruments VISA library.
- Active collaborator of the Pion LT project. Committed more than 50 shifts performing Target Operator and Shift Leader duties in the experimental Hall C counting room.

### Software Developer (Postdoctoral Researcher)

Catholic University of America (CUA) *Jul 2020 - Current*

- Applied Machine Learning (ML) TMVA framework to perform binary classification of thousands of signals from a data acquisition (DAQ) setup. Link to GitHub.
- Developed a computer simulation based on the Geant4 framework (C++, CMake, Eclipse IDE, gdb) to study optical properties of a novel scintillation material to be used in the EIC detector system. Link to GitHub.
- Teaching experience: mentoring students within a 3-month Research Experiences for Undergraduates (REU) program at the Physics Department at CUA. Giving talks and presentations about Linux Terminal, and supercomputer environment.
- Enhanced debugging of the core library source code lead to opening more than 10 bug reports on the ROOT (C++) forum.

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